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Abstract

A child's language develcpment during the elementary schcol years is described, with emphasis on acquisition and ccntrcl cf structural and lexical dimensicns of the language of standard and ncnstandard speakers and with special ccncern for the relaticnship between language production and the reading prccess. Numercus research studies are reviewed under the fcllowing headings: phonological and morphological develcpment, reading-deccding, syntactical develcpment, reading-comprehension, ccncept development, and comprehensicn strategies and cbjectives. In additicn to problems associated with dialectical differences, three levels of functional variety in oral and written expression are distinguished: informal, formal, and literary. Suggestions for future research are made in terms of seven key dimensicns tc be studied. A 61-item bibliography is included. (CM)

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LANGUAGE ACQUISITION AND THE READING PROCESS

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The acquisition of one's native language is indeed a complex process. In fact, little is known about the exact nature of the development of this miraculous phenomenon. Two language acquisition theories which have received greatest acclaim in recent years hold, first, that in a more traditional sense language is acquired through an elaborate association and mediational learning process (51, 54), and, second, that language as the species specific characteristic develops as latent structures are "triggered" physiologically and influenced by the model language available to the child (9, 27). Convincing arguments have been posited for both points of view, however, it would seem plausable that both theories contribute in some sense to an understanding of language acquisition. Assuming that latent language structures are present and basic to the development of grammatical competency and language performance (21) it is

also logical to assume that value stems from consistent social reinforcement and sentence expansion opportunities in refining and extending child grammar (8) as well as lexicon (24). The purpose of this paper, however, is not to review various theories on preschool language acquisition but instead to examine continued language acquisition in the early school years and explore its relationship to the reading process.

As one reads various language research summaries it is not uncommon to find conclusions which suggest that upon entrance to the first grade the child's language development is for the most part mature and that he is sufficiently equipped to handle most forms of discourse which embody highly complex structures and vocabulary. Comparatively speaking the child has made fantastic progress during his six years of life. He can recognize and produce novel sentences; discriminate between grammatical and nongrammatical sentences (e.g., The bike hit the tree. vs. The hit bike the tree.); utilize context and prosodic clues to disambiguate sentences possessing the same surface structure (e.g., They are visiting children. vs. They are visiting children.); comprehend sentences which possess different surface structures but have identical underlying meaning (e.g., The boy ate the apple. vs. The apple was eaten by the boy.); and also comprehend sentences which possess identical constituent structure but different deep structure (e.g., Miss Rufkin is easy to please., Miss Rufkin is eager to please.).

Thus by the time the child enters the first grade he has made great strides in language maturation but it must be recognized that substantial growth in structural and lexical language components must occur in the elementary school years. In this regard it is important that a discussion of language development account for language maturity not only in standard but in nonstandard dialects as well. It is also important that the relationship between language experience and the reading process be accounted for. The following discussion will thus be mainly devoted to the acquisition and control of structural and lexical dimensions of the language of standard and nonstandard speakers during the elementary school years with special concern for the relationship between language production and the reading process.

Control of Structural Components

Phonological and Morphological Development. Various status studies have consistently shown that by the time the child enters the first grade he has a high degree of control over his phonological system (32,56). In fact by the time the child is four to five years of age he has mastered the great majority of English sounds (13). Likewise his morphological development is well along upon entrance to the primary school (2,47). Only on occasion will he utilize an inflectional form (e.g., drinked) which deviates from the adult norm (29).

This language progress, however, assumes that the child has been provided with a "standard English" model and that opportunity has been present for language interaction in a wide variety of language environments. If these assumptions cannot be met then the language maturity criteria for the phonological and morphological systems will need to account for non-standard forms and performance levels in limited language environments.

Recent work on nonstandard dialects provides evidence of highly regular systems which in past years were considered to be degenerate forms of "good English". This regular nature is evident in the l-lessness common to the Southern Negro dialect and results in consistent production of homonyms so that toll becomes toe, and fault becomes fought. The simplification of consonant clusters in final positions such as /st/→/s/ and the loss of / t/ and / d/ results in homonyms so that past becomes pass, meant becomes men, and hold becomes hole. The English speaking youngster from a Spanish speaking background may have difficulty with vowel contrasts which distinguish the words bit /i/ and beat /iy/, bet /e/ and bait /ey/; and initial consonant contrasts such as sue /s/ and zoo /z/. The Navajo child has difficulty with initial consonant distinctions in words like vote /v/ and boat /b/; and chip /č/ and gyp /ǰ/.

These variations in the phonological system may result in meaning confusion between nonstandard and standard English speakers in situations where sentence context is not sufficient to clarify the intended meaning. If we are to understand the relationship between the phonological system

and the graphological system it becomes clear that dialectal variation must be accounted for. Otherwise the operationalized reading program makes false assumptions about the language performance of the nonstandard speaker and the teacher may attempt to develop sound-letter correspondences which are not possible for the child.

Reading-Decoding. Linguists such as Venezky (59), Wardhaugh (61) and Reed (41) have strongly recommended that it is necessary to consider letter patterns beyond the simple sound-letter correspondence level if a more consistent relationship between oral and written language forms is to be realized. This recommendation is based on the linguistic unit known as the morphophoneme, or the intermediate (between phoneme and morpheme) sound-spelling unit. The importance of this unit is obvious at once in the examination of the words supreme and supremity. On the first consideration the second e grapheme would appear to possess little regularity in its representation of a given sound. However, when the larger spelling pattern is considered a highly regular pattern is obviated. In the alterations -- supreme, supremity; extreme, extremity; obscene, obscenity -- we observe a consistent shift in the sound value (/iy/ to /i/) in adding the suffix ity. The same principle is present in the letter pattern using the final e marker (e.g., sit /i/, site /ay/).

Consideration also needs to be given to the possible value of utilizing phonological or sound segmentation rather than morphological or word affix segmentation in teaching decoding skills. An experiment by Rodgers (42) asked children to repeat words containing two syllables (e.g., toas-ter) and the same words divided between the two morphemes (e.g., toast-er). He found that the children were more successful in redividing words along syllabic or phonological breaks than along the morphological breaks thus supporting phonological segmentation.

The work by Gibson and her colleagues (18) has indicated that children develop higher-order generalizations in the early stages of reading and that these generalizations follow English spelling patterns. The children in the experiment appeared to perceive regularities in sound and spelling patterns and transfer these to decoding unfamiliar spelling patterns even though taught by what the researchers refer to as the "whole word" approach. The above research thus suggests the possible value and need to consider decoding units which extend beyond sound-letter correspondences and account for more complete regularity in the English spelling system.

As the classroom teacher and the theoretician view the relationship between language acquisition and the reading process both must not only be aware of the previously discussed cultural levels (25,40) such as standard and nonstandard dialects but also cognizant of functional

varieties of language such as informal, formal and literary. These varieties may exist within a given cultural level. Additional variation in language performance may be expected to result from the child's limited experience with language forms unique to a particular social environment. As a result one child may be able to function on only an informal functional variety level while a second child from a highly enriched language environment may shift with ease from the informal to the formal level.

By placing oral expression and written language forms on a functional variety continuum ranging from informal through formal to literary (40) we can examine the "fit" between these forms of communication for the beginning reader. Figure 1 indicates what we might expect to find.

Functional Variety Level	Oral Language	Written Language
Informal	Home and school language.	Personal notes, letters to friends, unedited language experience stories.
Formal	Classroom lectures, public speeches.	School textbooks, edited language experience stories.
Literary	Formal papers, speech as an art form.	Literature as an art form, aesthetic dimensions of written language.

Figure 1. Levels of functional variety in oral and written expression

Two problems are immediately obvious. First, the written language material which the child initially encounters in the instructional setting will in most cases be at least one level above his informal and familiar oral language style. Second, the child from a limited language environment which has provided little opportunity for the development of shift in a functional variety is at a decided handicap in approaching the printed page which is written for the most part at the formal level. For example, hafta, gonna, hadda, oughta, hasta, and wanna are quite appropriate in informal conversational settings for oral language but in written language are realized as have to, going to, had to, ought to, has to, and want to (29). The contractions I'll, she'll, he'll, and they'll are most appropriate in informal oral language situations, however, the written equivalents I will, she will, he will, and they will appear in many children's textbooks at the formal level from the child's earliest encounter with printed matter.

The problem then, for the nonstandard speaker is striking when we consider that he must not only account for dialectal deviations but also levels of functional variety in the second dialect. Speakers of standard and nonstandard forms, however, must accomodate the functional variety shift between informal styles and formal literary styles. As Goodman (20) has emphasized certain oral language sequences, which result from morpho-phonemic rules cutting across morpheme boundaries in the flow of speech,

are so common that the young speaker does not differentiate the invididual components in the sequence as in going to (gonna), with them (with'm), with him (with'm), must have (must'v) and should have (should'v). Thus oral language at the informal level may use one unit while the early encounter with printed forms at the formal level may require two units. This variation must be taken into account in both the instructional program and abstract explanations of the reading process. More will be said about the problem of stylistic shift in the following discussion which considers syntactical and lexical aspects of language acquisition.

Syntactical Development. The control of syntactical patterning by the preschool primary grade child has been demonstrated in various studies including those by Fraser, Bellugi and Brown (16), Brown and Fraser (6), Strickland (55), Loban (30), Ruddell and Graves (47), and O'Donnell, Griffin and Norris (38). These studies indicate that by kindergarten and first grade the child is able to comprehend sentences and produce expanded and elaborated sentences through the use of movables (words, phrases or clauses with no fixed position in the sentence) and transformed subordinating elements.

The research evidence also suggests that the developmental sequence in syntactical control extends well into and perhaps through the elementary grades. Menyuk's (33) work has identified some sequential components in children's syntax extending from nursery school into the first grade. She noted that even in the first grade some

patterns such as "if" and "so" clauses, perfects and nominalizations were still in the process of development. Lenneberg (28) has discussed the difficulty presented by transformations in the passive voice for the mentally retarded child. The work of Strickland (55) shows a definite relationship between sentence complexity and grade level. Loban's research (30) revealed that throughout the elementary grades the average communication unit length increased indicating a developmental sequence of complexity in sentence structure.

The detailed study by Harrell (22) compared selected language variables in the speech and writing of children aged nine, eleven, thirteen, and fifteen using a short movie as the speech and writing stimulus. The investigator found that the length of the compositions and clauses used in oral and written expression increased with age, with a larger percentage of subordinate clauses being used by the older children in both written and spoken composition. The children were found to use a larger percentage of subordinate clauses in writing than in speaking. More adverb and adjective clauses were used in written compositions while a larger number of noun clauses were used in speaking. A larger percentage of adverbial clauses, excepting those of time and cause, were used in the children's speech. The developmental increase of each language variable in relation to age was found to be greater for written compositions than for oral.

The work of O'Donnell, Griffin and Norris (38) at kindergarten and grades one, two, three, four and seven also lends support to the general notion of a developmental sequence of syntax acquisition in the elementary grades. These researchers have observed that some transformations (e.g., relative clause, "The man who was wearing a coat...")were used much more frequently in kindergarten than in later grades while other items (e.g., noun modification by a participle," The man wearing a coat...") were more frequent in later grades. The researchers observed that such a developmental sequence would appear to be a logical one from the standpoint of transformational grammar in that many of the later constructions are derived from more complex deletion rules.

Also of interest in the O'Donnell, Griffin and Norris research was the finding of distinct variation in the syntax of speech and writing in grades three, five and seven. At third grade oral expression was deemed superior to written expression in transformational complexity while at grades five and seven the reverse was true. These findings are similar to those of the previously mentioned Harrell study and suggest that by the intermediate grades the child has some production control over stylistic variations which require more complex constructions in written expression.

By examining research which contrasts the language development of children possessing hearing deficiency with that of normal children the relationship between oral language experiences and written language production is brought into sharper focus. Heider and Heider (23)

secured written compositions based on a motion picture from a large number of deaf and hearing children ranging in age from eleven to seventeen years and eight to fourteen years respectively. Although the deaf children were three years older their compositions were found to resemble the less mature hearing children. The deaf children were found to use fewer numbers of words and clauses than the hearing children while the hearing children used more compound and complex sentences with a large number of words in coordinate and subordinate clauses, thus indicating a more advanced development in language production.

The written language of normal and defective hearing children has been examined in Templin's (57) research. Children having hearing deficiencies were found to use more words in their explanations of natural phenomena than hearing children of the same age, grade and intelligence. This finding was interpreted to reflect less adequate control over vocabulary and perhaps syntax, rather than representing a more complex type of expression. The children with defective hearing apparently needed more words to express a concept due to low efficiency in expressing their ideas through elaborated sentences and more abstract vocabulary.

Both the Heider and Heider and the Templin studies point to a significant relationship between oral and written language development. The opportunity for oral language experience through hearing would appear to directly influence performance in written language.

The language deviations of the nonstandard speaker also result in significant grammatical variations. The previously discussed l-lessness, for example, may affect future forms where you'll becomes you, he'll becomes he and they'll becomes they. Thus, when the child reads the sentence "He will go." as "He go." he is consistently translating the sentence in his dialect. An example used by Shuy (49) states that the written sentence "John asked if Mary wore a coat." is frequently read by the ghetto child as "John asked did Mary wear a coat." In this instance the substitution of did for if and wear for wore does not represent an error in reading in terms of the child's dialect. If, however, the child read "John asked Mary if did she wear a coat." or "John asked Mary if she wear a coat." the alterations do vary from the consistent nonstandard forms and would represent a reading difficulty. The child's consistent performance may thus be interpreted to indicate that he possesses a high degree of language competence in the same manner as the standard speaker of English.

An understanding of the relationship between the communication process and the standard and nonstandard syntactical forms is of importance to both the classroom practitioner and the theorist. Bernstein's research (3, 4) supports the viewpoint that the "restricted" code associated with lower socioeconomic status and related language experiences is characterized by limited subordination and is syntactically redundant. In contrast

the "elaborated code" uses more complex forms of subordination which can account for logical relationships and greater causality. The "elaborated" code makes provision for meaningful explication of specific topics with strangers or new group members. The contribution of syntactical factors to the "elaborated" code would appear to be in terms of subordination and expression of complex relationships. Although these dimensions can be handled in the "restricted" code a definite economy is present in the utilization of the "elaborated"code with a majority population that does not possess the competency necessary to comprehend the unique features of the "restricted" code.

The "elaborated" code would also be expected to make provision for easier transition from oral to written language comprehension and production particularly in terms of greater subordination control required in the stylistic shift from an informal to a formal functional variety level.

Reading-Comprehension. The close relationship between comprehension ability and language production receives support from a variety of studies. The research of Fraser, Bellugi and Brown (16) supports the view that children must comprehend grammatical contrasts before they are able to produce these contrasts. The previously cited research of Strickland (55) and Loban (30) report significant relationships between children's reading and listening comprehension achievement and their demonstrated use of movables and subordination in oral language.

From the early study of mistakes in paragraph reading of sixth grade children, Thorndike (58) noted that understanding a paragraph is dependent upon the reader's selection of the right elements and synthesizing them in the right relations. The child's ability to comprehend material whether written or spoken would seem to be a function of his ability to see the relationships between key elements in the sentence. Thus relating various subordinating elements to the central idea of the sentence is of basic importance for comprehending the discourse.

Using a "disarranged phrase test" Gibbons (17) studied the relationship between third grade children's ability to understand the structure of sentences and their reading achievement. She found a high correlation (.89) between the ability to see relationships between parts of a sentence and the ability to understand the sentence, when intelligence was partialled out. A significant correlation (.72) was also found between the ability to see relationships between parts of sentences and total reading achievement.

The importance of familiarity with syntactic patterning to reading achievement is evident in MacKinnon's research (30). In a detailed study of beginning readers he observed that children attempted to substitute syntactic patterns which they had previously read and were familiar with in place of unfamiliar patterns in their attempt to decode unfamiliar reading materials.

A study by Ruddell (43),at the fourth grade level, examined the effect on reading comprehension of written patterns of language structure which occur with high and low frequency in children's oral language. By controlling the vocabulary difficulty, sentence length and subject matter content in a series of reading passages, the relationship between reading comprehension and pattern complexity was examined. Reading comprehension scores on passages written with high frequency patterns of language structure were found to be significantly superior to comprehension scores on passages written with low frequency patterns of language structure.

The child's understanding of the sentence structure would be expected to enhance his ability to narrow alternate word meanings and thus contribute to comprehension. For example, the word <u>that</u> not only cues a noun which follows but may also clarify or emphasize the semantic nature of the noun (e.g., <u>That</u> yellow canary ate the cat. vs. <u>Some</u> yellow canary ate the cat.) Miller (35) and Miller,et. al. (36) have demonstrated that words in context following a similar grammatical pattern are perceived more accurately than when in isolation. Additional support for the importance of context in narrowing semantic possibilities is found in the research of Goodman (19). He has shown that although children may be unable to decode words in isolation, they deal successfully with the same words in a running context. These findings support the importance of contextual associations which provide sufficient delimiting information to enable the child to determine the semantic role of a word and further to recognize and comprehend it in a sentence.

A longitudinal study by Ruddell (45, 46) has demonstrated that the sentence and paragraph meaning comprehension of first and second grade children can be significantly enhanced by emphasizing the meaning relationships between key structural elements within and between sentences. Additionally, the doctoral dissertation research of Bacle (1), which was part of the longitudinal study described above, indicated that by the end of third grade the children who had participated in the treatment stressing the relationship between key structure elements were expressing themselves in written form with longer communication units and with greater clausal depth thus indicating control over more complex constructions and subordination in the written language performance. This research parallels in some respects the preschool oral language research of Cazden (8). Her work with two and three year old children indicated that the use of full grammatical sentences in response to the children's verbal expression and the expansion of their telegraphic speech to full adult grammatical sentences resulted in an increased level of performance on several measures of grammatical development when contrasted with a control group. The "richness of verbal stimulation" appeared to be of great import in extending grammatical control. These findings indicate that language comprehension and production can be enhanced in the preschool and early grades by placing emphasis on structural relationships which influence meaning within and between sentences.

Control of Lexical Components

Concept Development. The child's conceptual development makes rapid progress during the preschool years and he will recognize and possess control over many hundreds of words by his first year of school(52,53). During this time a variety of concepts are formulated as the youngster associates common properties of an object with the object label. As Vygotsky (60) has pointed out the preschooler calls a cow a cow because it has horns, and a calf a calf because its horns are still small, while a dog is called a dog because it is small and has no horns. Eventually the child comes to conceptualize the arbitrary nature of language itself as he understands that word labels are assigned to concepts and that a particular label may represent several concepts depending upon its contextual use.

There is ample evidence to support the view that concepts develop along a continuum from concrete through the semi-concrete or functional to the abstract levels as illustrated in the research of Fiefel and Lorge (15). The work of Russell and Saadeh (48) is also illustrative of research supporting such a continuum. These researchers contrasted student conceptual responses at grades three, six and nine on multiple choice questions designed to measure various levels of abstraction. They concluded that third grade children favored "concrete" responses while sixth grade and ninth grade children favored "functional" and

"abstract" responses. As Ervin-Tripp (14) has emphasized, in her extensive research summary of child language, conceptual maturation moves from concrete referents to "hierarchies of superordinates which may have rather vague features (e.g., mammal, vertebrate) and they [adults] speak of nonvisible referents such as politics and energy."

Various background variables have been credited with enhancement of language performance. John and Goldstein's (24) verbal mediation research reveals that a child's verbal interaction with a mature speaker is of importance in making provision for testing tentative notions about word meanings. Such opportunity would appear to produce greater verbal control and enable the child to rely on words as mediators facilitating thought. Vygotsky (60) has suggested that the availability of adults for dialogue with the child is of great import to language acquisition. This consideration also receives support from Davis' (10) early research which revealed that in families of only children language facility was found to develop more rapidly than in families of children with siblings; and children with siblings were found to develop language facility faster than twins.

The effect of factors in the home environment on language achievement is evidenced in Milner's investigation (37). Following the selection of high and low achievers in first grade reading, a depth interview was carried out exploring the children's use of language in the home. Milner found that the high achieving children had an enriched verbal environment with more books

available and were read to more often by high-esteemed adults than the low achieving children. The high-scoring children also engaged in conversation with their parents more often than the low-scoring children. She noted further that in many of the home invironments of low-scoring children a positive family atmosphere was not evident nor did the children have an adult-relationship pattern established. There appeared to be little opportunity for these children to interact verbally with adults possessing adequate speech patterns and who were of high personal value to the children.

In classroom instruction the child is frequently required to provide requested information at the formal functional variety level. As Bernstein (3, 4) has emphasized the child from the low socioeconomic environment using the "restricted" code is required to use language in situations which he is neither equipped nor oriented to handle. This may be due not only to the past discussion of syntactical factors but also to his limited lexical control and ability to shift from an informal and intimate style developed in situations oriented toward immediate and concrete needs to a formal style characterized by abstractions which carry highly efficient explanatory power. Certainly a limited vocabulary represents a most critical factor in reading comprehension. This problem is highlighted in Metfessel's findings (34) that second-grade children from concept deprived backgrounds possessed a comprehension

vocabulary only one-third the magnitude of the average of their age-equivalent peers. Again, the classroom teacher and the theoretician must account for the child's lexical control if the wide range of conceptual variation is to be accounted for in practice, and theory, respectively.

Comprehension Strategies and Objectives. The importance of a cognitive strategy to the conceptualization process has been clearly demonstrated in the research literature (7). If the language user is to participate actively in the process of communication he must evolve a symbol-processing system which will provide for the conceptualization of his experience. This is basic to his success in examining alternate approaches to decoding a new word and in comprehending written material which requires high level inference skills. From his concept formation study with elementary school children Kress (26) concluded that achieving readers were superior to nonachievers in their versatility and flexibility, their ability to draw inferences from relevant clues, and their ability to shift set when new standards were introduced. There is considerable research to support the relationship between language comprehension and an individual's ability to change, modify, and reorganize previously formed concepts (50).

The child's communicative objectives must also be viewed as critical to the development of his communication skills. These objectives must be of a real and meaningful nature to the child if they are to be operationalized as the individual confronts the reading material. The reading objectives

should provide immediate self-direction for the child and will be of value in developing high motivation as revealed in his persistence and drive. This view also obtains support from the previously mentioned study of Kress (26). He has reported that achieving readers demonstrated more initiative in exhausting solutions and were found to persist in problem solving under changing conditions in contrast to the non-achieving readers. Durkin's (11, 12) extensive work with the preschool child suggests that the early reader is an individual who is serious and persistent, is curious in nature, and possesses the ability to concentrate. The research of Piekarz (39) has identified the high-level reader as an individual who provides significantly more responses in interpreting a reading passage, a trait indicating greater involvement and participation. The high-level reader was also found to be more objective and impersonal in synthesizing the information sought which may be interpreted to support the importance of establishing reading objectives.

Thus, an individual's cognitive strategy is seen as a method of organizing and assimilating data as well as making provision for hypothesis formulation and testing. Provision for self-directing behavior through formulation of personal and immediate communication objectives would be expected to enhance the child's participation, persistency,and drive leading to more effective language control.

Summary and Recommendations

In conclusion, upon the child's entry to formal education he displays language performance which reflects a high degree of competence. Even so, however, four significant factors must be recognized and accounted for in any operational and theoretical formulation of the reading process. First, the child's ability to comprehend language preceeds and exceeds his ability to produce language. Second, his language comprehension appears to be a direct function of his control over the grammatical and lexical components of the discourse. Third, his language competence and performance appear to move through a developmental sequence during the elementary school years which in some respects parallels the competency model proposed by the transformational grammarian. And, fourth, his language performance is directly related to his language environment, including the available language model and opportunity for language interaction, his comprehension strategies and objectives, and possibly maturation of his latent language structures.

Many essential informational areas which are required to explain the multitude of interactions which occur during the reading process are blank. The reading-language researcher and theoretician must carefully include the following dimensions in future research exploration:

1. A detailed mapping of the child's developmental performance in gaining control over his grammar during the elementary school years.

2. A parallel longitudinal study which examines the relationship between the child's grammatical performance and his lexical control.

3. A parallel longitudinal study which examines the relationship between his comprehension ability and his grammatical and lexical performance.

4. An intensive investigation designed to explore meaning interference which may be caused by variation in standard and nonstandard and functional varieties in language - including phonological, morphological, morpho-phonemic, syntactical and lexical items.

5. A study of the unique characteristics of "language enrichment" approaches and the relationship between these characteristics and the grammatical and lexical development of standard and nonstandard speakers during the pre-school and elementary school years.

6. A study of various decoding units (e.g., grapheme-phoneme, morpho-grapheme-morphophoneme) and the relationship between these units and early reading success.

7. A parallel study which will examine the relationship between various decoding units, and reading success of children speaking standard and nonstandard dialects.

These problem areas are illustrative of the types of information required in order to formulate a theory of reading which will have explanatory power. Until such information is available our theoretical formulations of the reading process will remain extremely weak. It is obvious that we have far to go.

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